

# A proposed solution to basic conveyance and ecosystem restoration problems

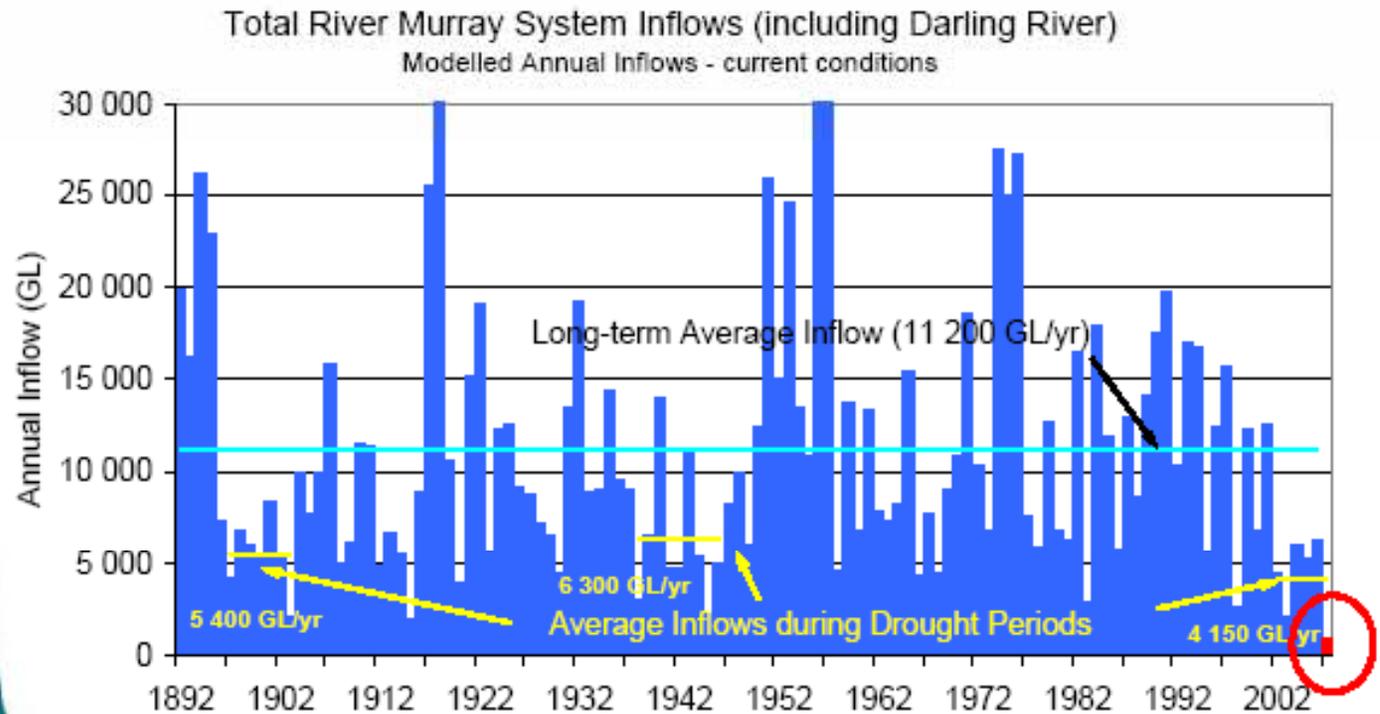
By Robert Pyke Ph.D., G.E.

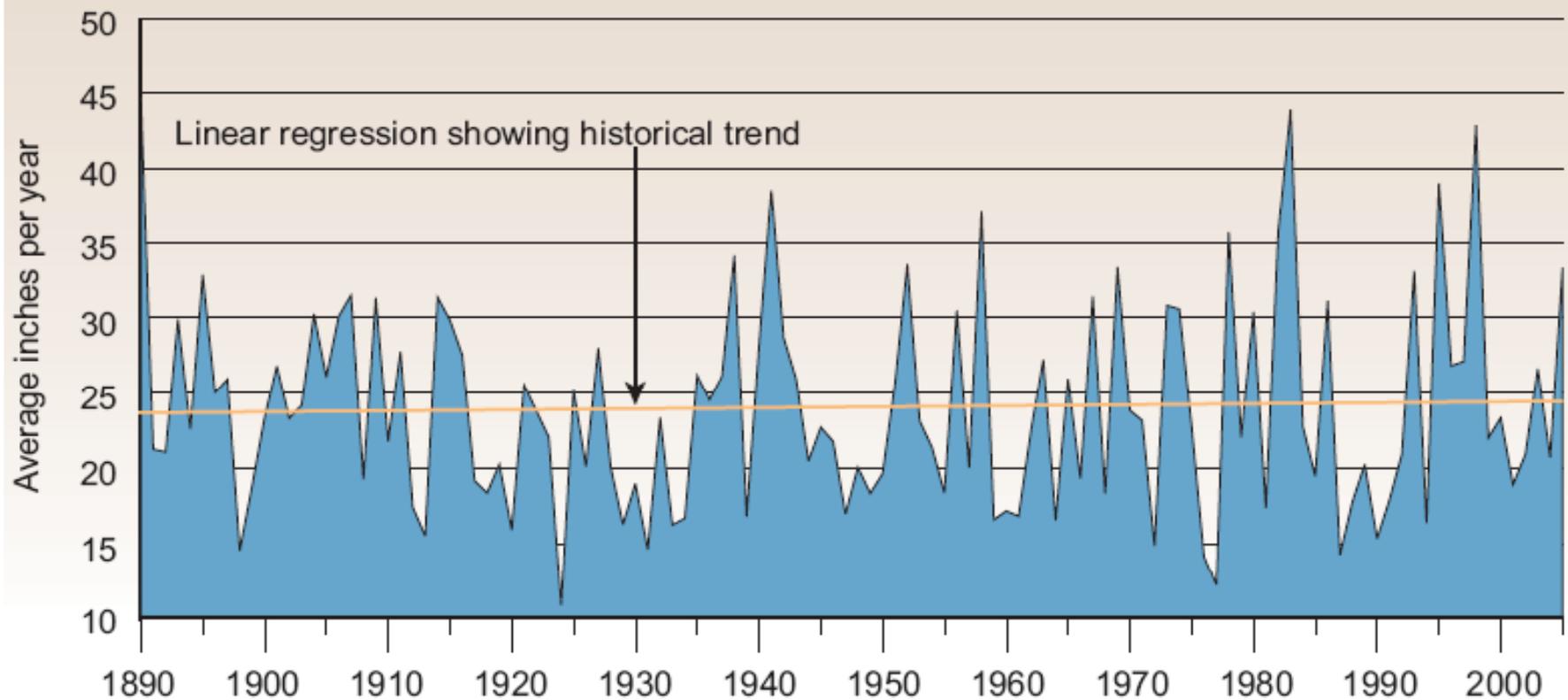
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# River Murray System Inflows (including Darling) Annual Totals





116 year average: 23.88 inches

Driest 30 years (1908-1937): 21.28 inches

Wettest 30 years (1977-2006): 24.88 inches

Yearly precipitation calculated from average of 95 stations spread across California. Data collected by Jim Goodridge, state climatologist formerly with DWR.

Source: California Department of Water Resources

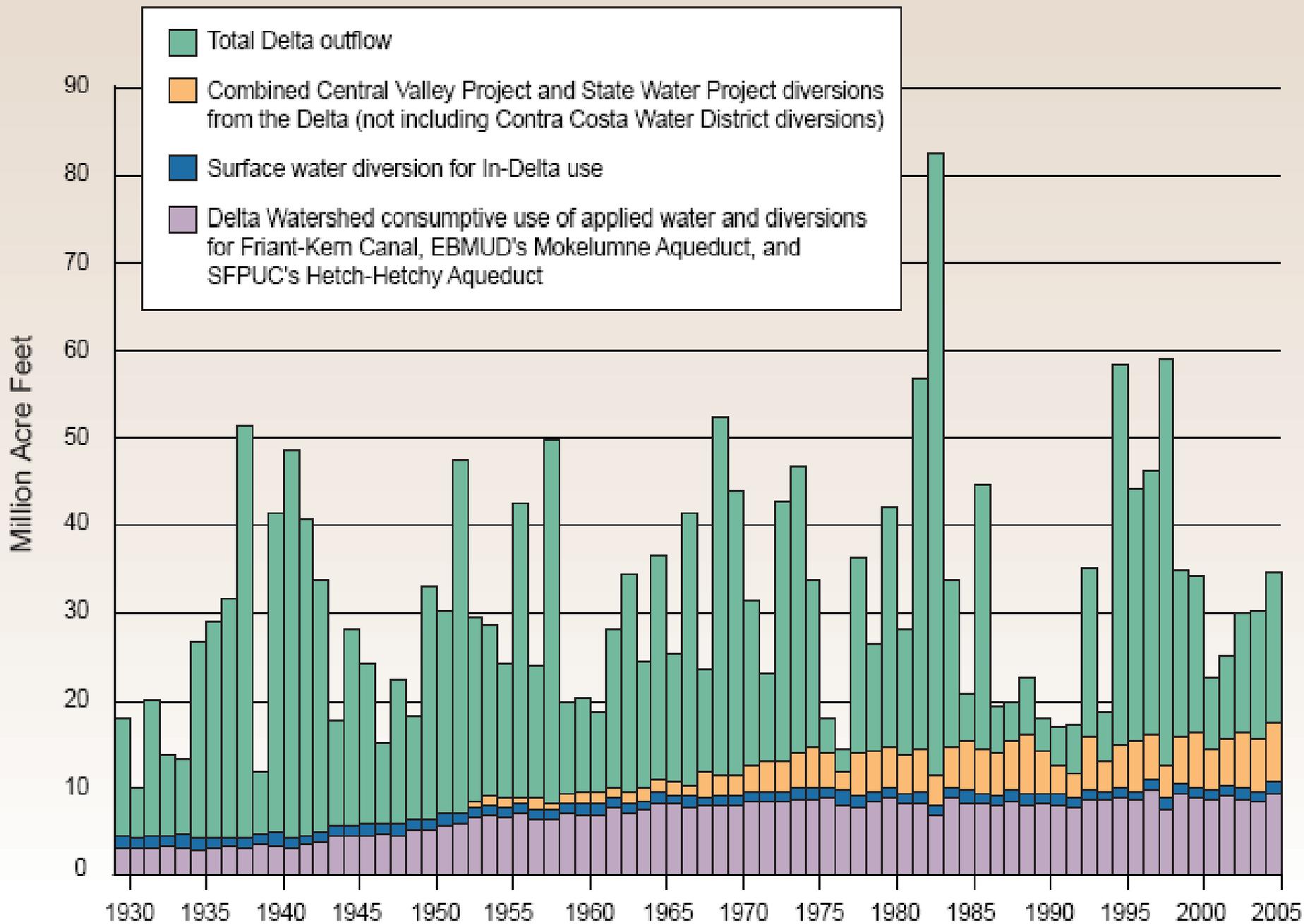
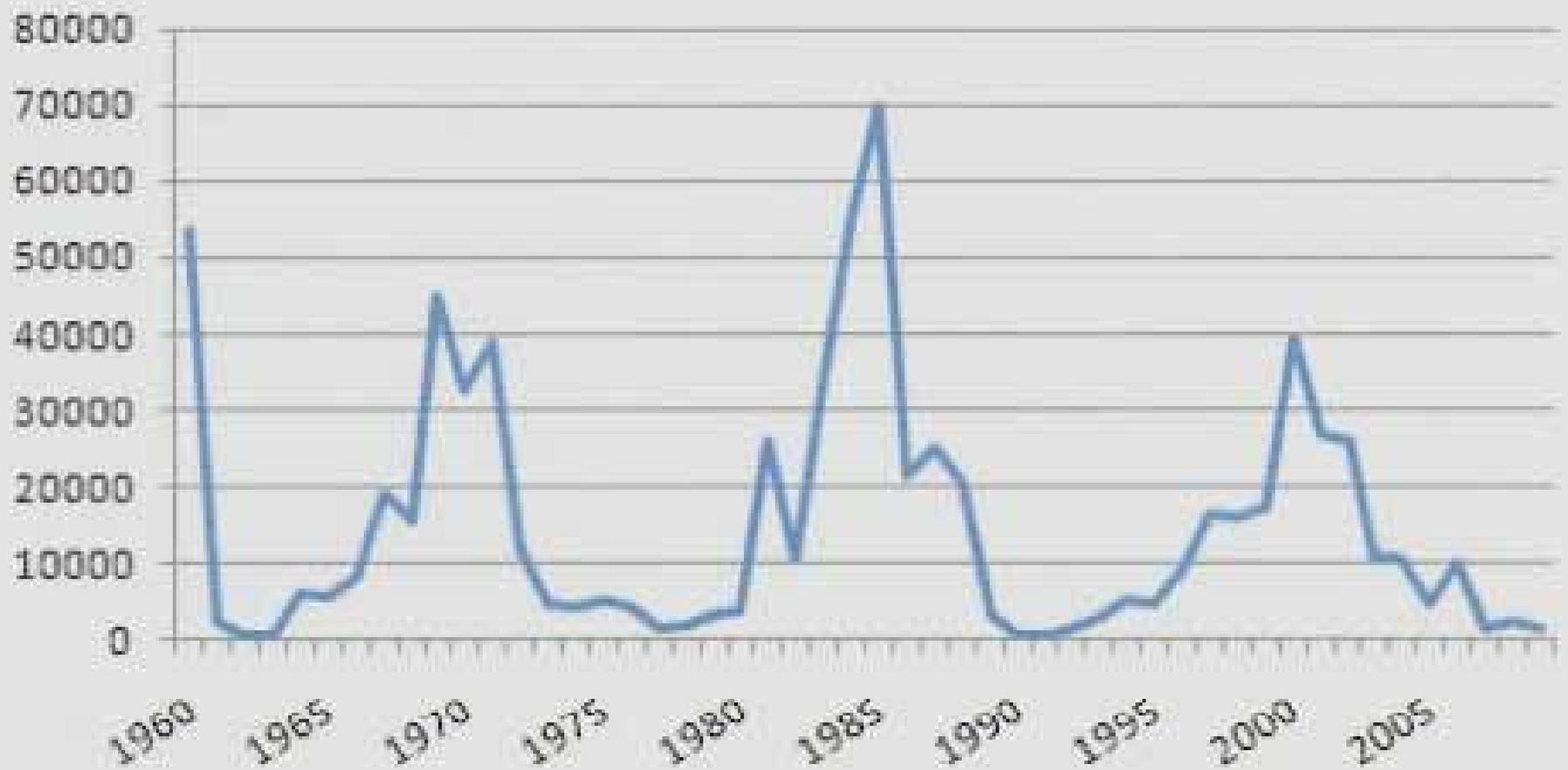


Figure B. Adult San Joaquin Salmon Returns 1960-2009

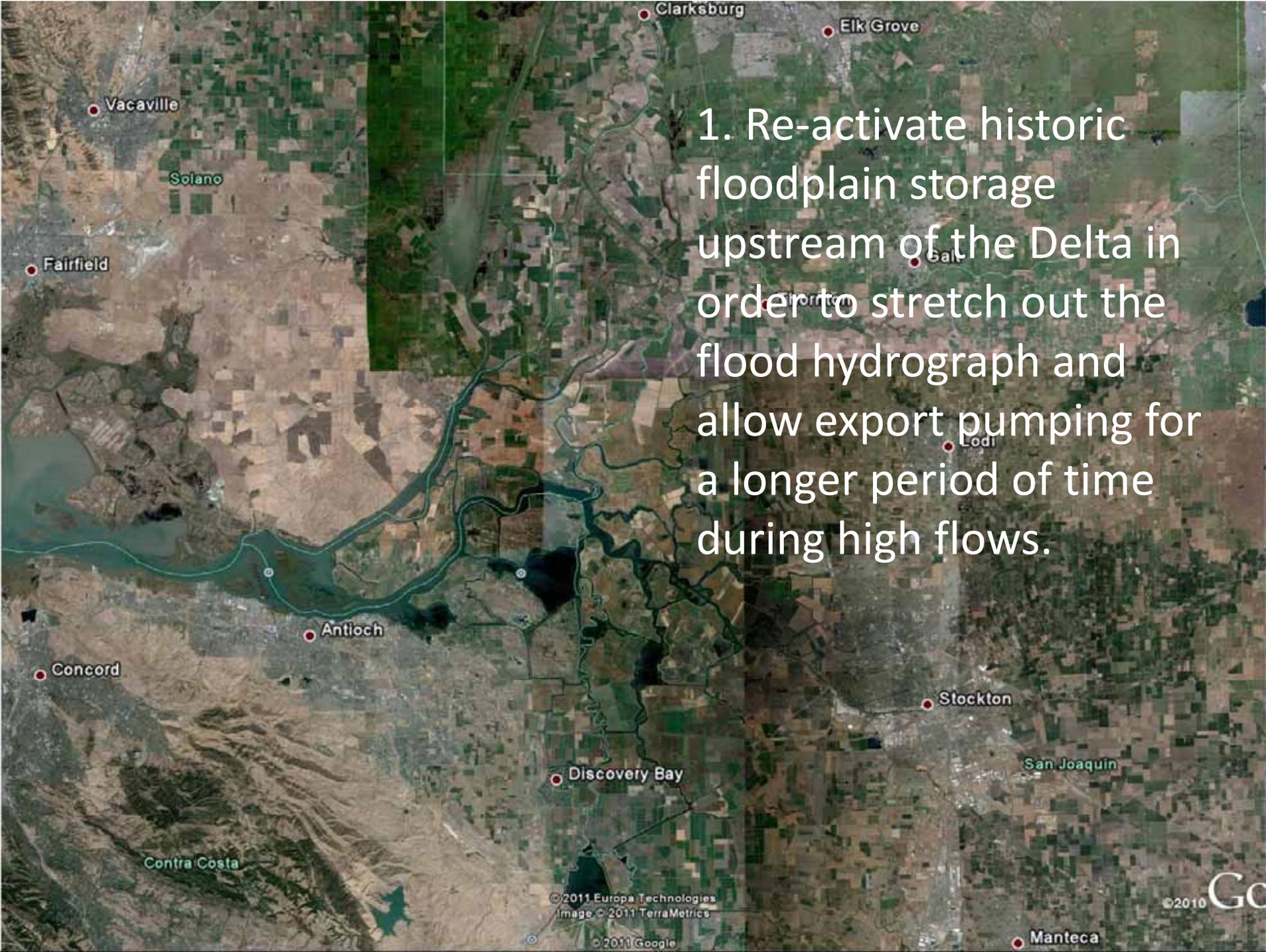
## Adult San Joaquin Salmon Returns



## Two basic principles:

- Allow natural flows to pass through the Delta before any exports are extracted
- Extract more water during high flows and less or no water during low flows

Leads to four physical elements:

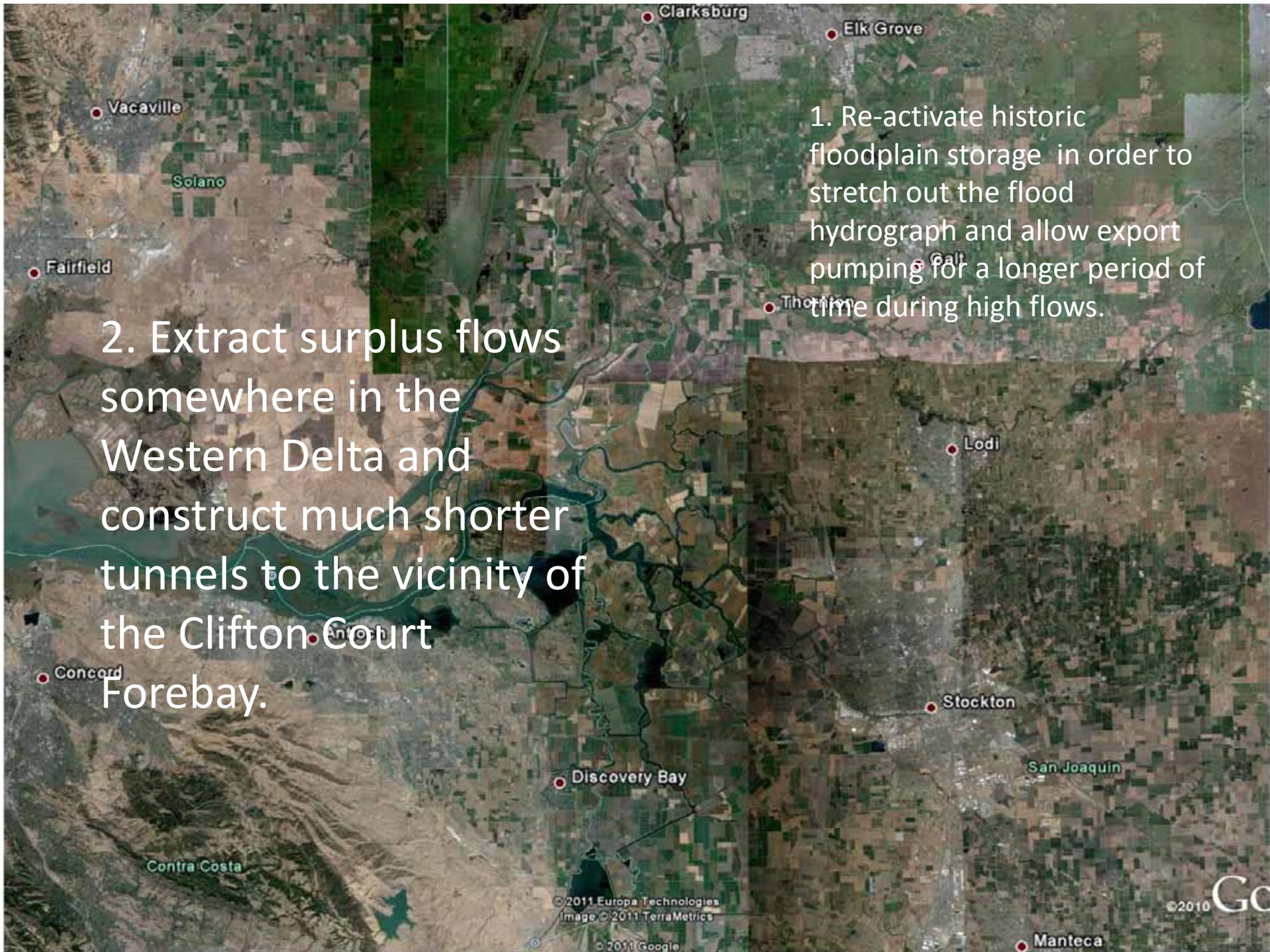
A satellite map of the Sacramento-San Joaquin River Delta region. The map shows the Sacramento River flowing from the north and the San Joaquin River flowing from the east, meeting at the Delta. Major cities are marked with red dots and labeled: Vacaville, Fairfield, Concord, Antioch, Discovery Bay, Clarksburg, Elk Grove, Stockton, Lodi, Manteca, and Manteca. County names are also visible: Solano, Contra Costa, and San Joaquin. A large, semi-transparent white text box is overlaid on the right side of the map, containing the text: "1. Re-activate historic floodplain storage upstream of the Delta in order to stretch out the flood hydrograph and allow export pumping for a longer period of time during high flows." The text is in a white, sans-serif font. At the bottom of the map, there are copyright notices: "© 2011 Europa Technologies Image © 2011 TerraMetrics" and "© 2010 Google".

1. Re-activate historic floodplain storage upstream of the Delta in order to stretch out the flood hydrograph and allow export pumping for a longer period of time during high flows.



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Has additional ecosystem restoration and flood mangement benefits!



2. Extract surplus flows somewhere in the Western Delta and construct much shorter tunnels to the vicinity of the Clifton Court Forebay.

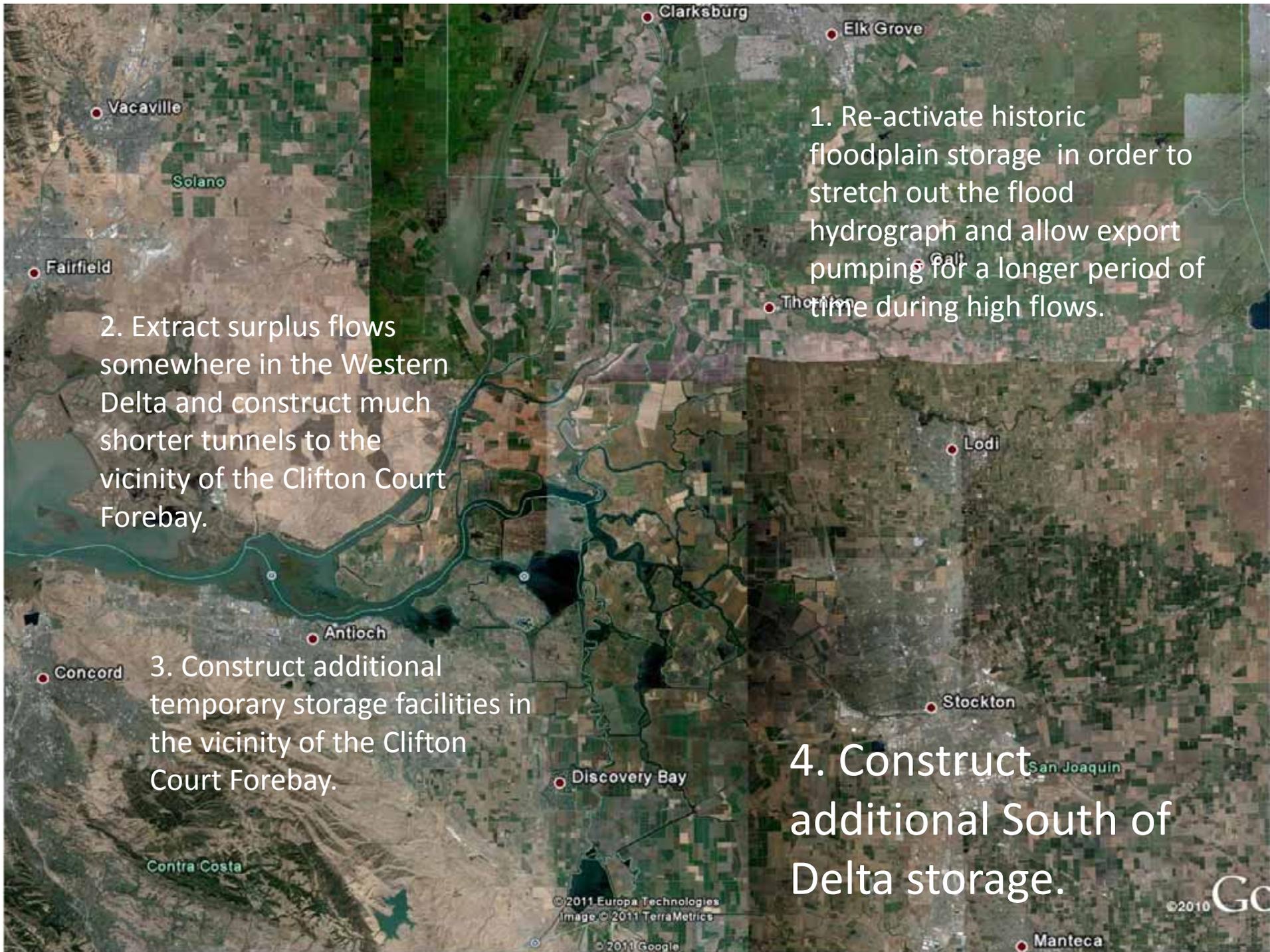
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3. Construct additional temporary storage facilities in the vicinity of the Clifton Court Forebay.

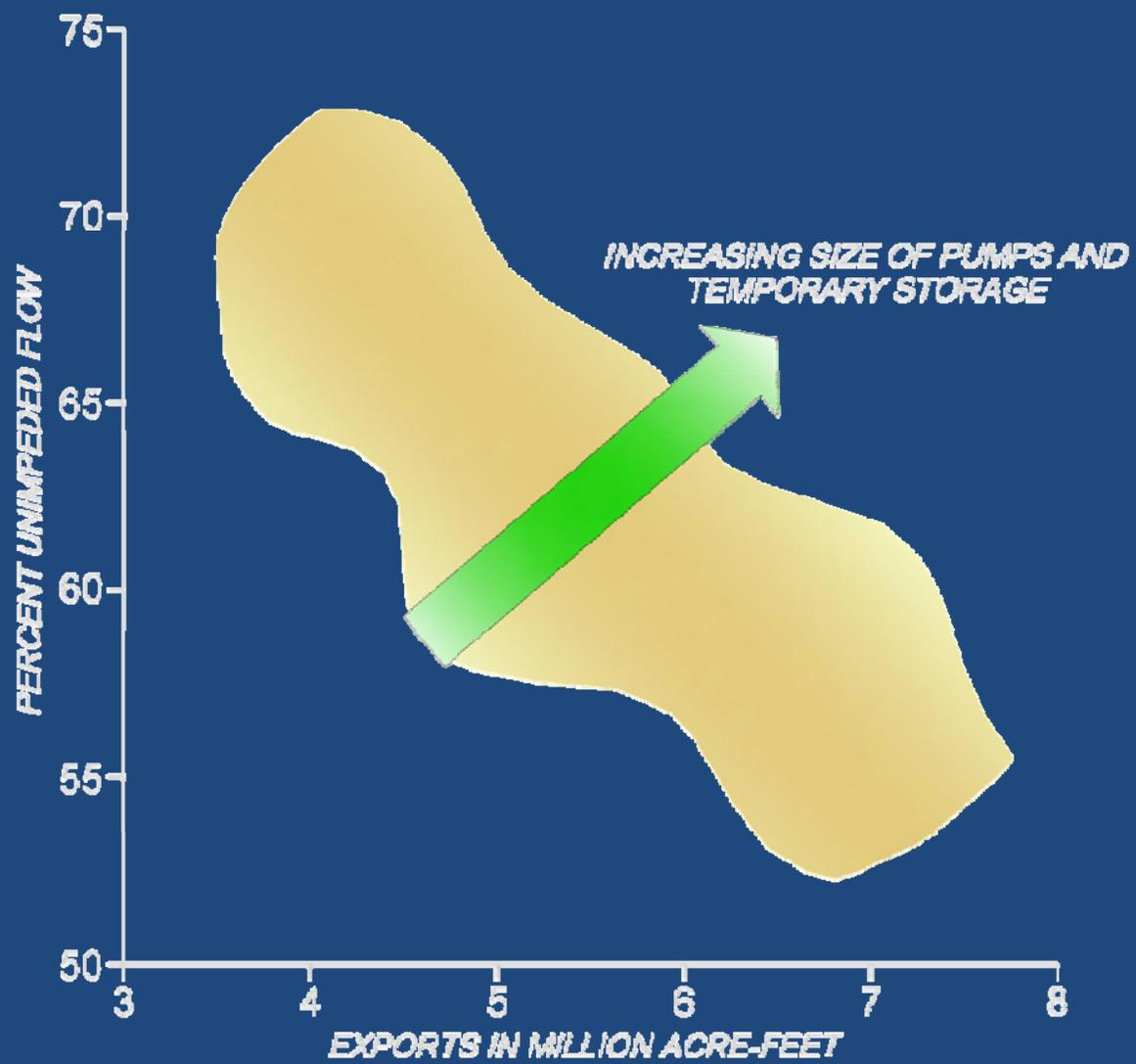


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4. Construct additional South of Delta storage.



Thank you!

I'd be happy to address easy  
questions.